4.3.2.2 Site Infrastructure

This section discusses the impacts on site infrastructure needed to support the Pu conversion facility at each of the six representative sites. Constructing and operating the facility would impact infrastructure at each site differently, depending on operating resources.

The Pu conversion facility would be composed of shipping and receiving, material management, processing operations, waste management, and necessary facility infrastructure and utility support functions. Construction would require approximately 6 years to complete. Table 4.3.2.2–1 presents a comparison of annual construction resource needs for each of the representative sites. Comparative impact of average annual resource needs for operation are presented in Table 4.3.2.2–2.

Table 4.3.2.2–1. Additional Site Infrastructure Needed for the Construction of the Plutonium Conversion Facility (Annual)

	Electrical		Fuel		
	Energy (MWh/yr)	**Peak Load (MWe)**	**Oil (l/yr)**	**Natural Gas (m^3/yr)**	**Coal (t/yr)**
Facility Requirement	1,100	<1	157,850	0	0
Hanford					
Site availability	1,678,700	281	14,775,000	21,039,531	91,708
Projected usage (without facility)	345,500	58	9,334,800	21,039,531	0
Projected usage (with facility)	346,600	59	9,492,650	21,039,531	0
Amount required in excess to site availability	0	0	0	0	0
NTS					
Site availability	176,844	45	5,716,000	0	0
Projected usage (without facility)	124,940	25	5,716,000	0	0
Projected usage (with facility)	126,040	26	5,873,850	0	0
Amount required in excess to site availability	0	0	157,850[a]	0	0
INEL					
Site availability	394,200	124	16,000,000	0	11,340
Projected usage (without facility)	232,500	42	5,820,000	0	11,340
Projected usage (with facility)	233,600	43	5,977,850	0	11,340
Amount required in excess to site availability	0	0	0	0	0

Table 4.3.2.2–1. Additional Site Infrastructure Needed for the Construction of the Plutonium Conversion Facility (Annual)—Continued

	Electrical		Fuel		
	Energy (MWh/yr)	Peak Load (MWe)	Oil (l/yr)	Natural Gas (m^3/yr)	Coal (t/yr)
Facility Requirement	1,100	<1	157,850	0	0
Pantex					
Site availability	201,480	23	1,775,720	289,000,000	0
Projected usage (without facility)	46,266	10	795,166	7,200,000	0
Projected usage (with facility)	47,366	11	953,016	7,200,000	0
Amount required in excess to site availability	0	0	0	0	0
ORR					
Site availability	13,880,000	2,100	416,000	250,760,000	16,300
Projected usage (without facility)	726,000	110	379,000	95,000,000	16,300
Projected usage (with facility)	727,100	111	536,850	95,000,000	16,300
Amount required in excess to site availability	0	0	120,850[a]	0	0
SRS					
Site availability	1,672,000	330	28,390,500	0	244,000
Projected usage (without facility)	794,000	116	28,390,500	0	221,352
Projected usage (with facility)	795,100	117	28,548,350	0	221,350
Amount required in excess to site availability	0	0	148,350	0	0

[a] Fuel oil requirements in excess to site availability could be procured through normal contractual means.

Source: HF 1995a:1; INEL 1995a:1; LANL 1996c; NTS 1993a:4; OR LMES 1995e; PX 1995a:1; PX DOE 1995g; SRS 1995a:2.

Table 4.3.2.2–2. Additional Site Infrastructure Needed for the Operation of the Plutonium Conversion Facility (Annual)

	Transportation		Electrical		Fuel		
	Roads (km)	Rail (km)	Energy (MWh/yr)	Peak Load (MWe)	Oil (l/yr)	Natural Gas (m^3/yr)	Coal (t/yr)
Facility Requirement	<5	0	21,000	5	39,750	4,361,000	0
Hanford							
Site availability	420	204	1,678,700	281	14,775,000	21,039,531	91,708
Projected usage (without facility)	420	204	345,500	58	9,334,800	21,039,531	0
Projected usage (with facility)	425	204	366,500	63	9,374,550	25,400,531	0
Amount required in excess to site availability	<5	0	0	0	0	4,361,000[a]	0
NTS							
Site availability	1,100[b]	0	176,844	45	5,716,000	0	0
Projected usage (without facility)	645	0	124,940	25	5,716,000	0	0
Projected usage (with facility)	650	0	145,940	30	5,755,750	4,361,000	0
Amount required in excess to site availability	0	0	0	0	39,750[c]	4,361,000[a]	0
INEL							
Site availability	445	48	394,000	124	16,000,000	0	11,340
Projected usage (without facility)	445	48	232,500	42	5,820,000	0	11,340
Projected usage (with facility)	450	48	253,500	47	5,859,750	4,361,000	11,340
Amount required in excess to site availability	<5	0	0	0	0	4,361,000[a]	0
Pantex							
Site availability	76	27	201,480	23	1,775,720	289,000,000	0
Projected usage (without facility)	76	27	46,266	10	795,166	7,200,000	0

Table 4.3.2.2–2. Additional Site Infrastructure Needed for the Operation of the Plutonium Conversion Facility (Annual)—Continued

	Transportation		Electrical		Fuel		
	Roads (km)	Rail (km)	Energy (MWh/yr)	Peak Load (MWe)	Oil (l/yr)	Natural Gas (m^3/yr)	Coal (t/yr)
Facility Requirement	<5	0	21,000	5	39,750	4,361,000	0
Projected usage (with facility)	81	27	67,266	15	834,916	11,561,000	0
Amount required in excess to site availability	<5	0	0	0	0	0	0
ORR							
Site availability	71	27	13,880,000	2,100	416,000	250,760,000	16,300
Projected usage (without facility)	71	27	726,000	110	379,000	95,000,000	16,300
Projected usage (with facility)	76	27	747,000	115	418,750	99,361,000	16,300
Amount required in excess to site availability	<5	0	0	0	2,750[c]	0	0
SRS							
Site availability	230	103	1,672,000	330	28,390,500	0	244,000
Projected usage (without facility)	230	103	659,000	130	28,390,500	0	210,000
Projected usage (with facility)	235	103	680,000	135	28,430,250	4,361,000	210,000
Amount required in excess to site availability	<5	0	0	0	39,750[c]	4,361,000[a]	0

[a] Facility would be adapted to use fuel oil instead of natural gas.

[b] Includes both paved and unpaved roads.

[c] Fuel oil requirements in excess to site availability could be procured through normal contractual means.

Source: HF 1995a:1; INEL 1995a:1; LANL 1996c; NTS 1993a:4; OR LMES 1995e; PX 1995a:1; PX DOE 1995g; SRS 1995a:2.

Hanford Site

Resources needed for construction are well within site availability. These resources would represent a small fraction of those needed to operate the site. Operations impacts would be small. The planned Pu conversion facility would use natural gas as the primary utility fuel, and the total requirement for natural gas would be higher than the site currently has available. The additional amount could be procured normal contractual means. [Text deleted.]

Nevada Test Site

Resources needed for construction would be well within site availability for all resources except oil. These resources would represent a small fraction of those needed to operate the site. Operational impacts would be small except for utility fuel. The planned Pu conversion facility would use natural gas as the primary utility fuel. Since NTS uses fuel oil as its primary utility fuel, using natural gas in lieu of fuel oil would require additional infrastructure. The final facility design would be converted to a fuel oil basis. Fuel oil requirements would exceed current site availability, but can be procured through normal contractual means.

Idaho National Engineering Laboratory

Resources needed for construction would be within site availability. These resources would represent a small fraction of those needed to operate the site. Operations impacts would be small except for utility fuel. The planned Pu conversion facility would use natural gas as the primary utility fuel. Since INEL uses fuel oil as its primary utility fuel, using natural gas in lieu of fuel oil would require additional infrastructure. The final facility design would be converted to a fuel oil basis. With this conversion from natural gas to fuel oil, site infrastructure requirements are within site capacities. [Text deleted.]

Pantex Plant

Resources needed for construction would be within site availability. [Text deleted.] Operations requirements would be within site availability. Adequate electrical energy would be available from the regional power grid.

Oak Ridge Reservation

Except for fuel oil, resources needed for construction would be well within site availability. Additional fuel oil for construction could be procured through normal contractual means. These resources would represent a small fraction of those needed to operate the site. Operational impacts would be small. [Text deleted.] However, the total requirement for oil would be slightly higher than the site currently has available. The additional amount could be procured through normal contractual means.

Savannah River Site

Resources needed for construction would be within site availability for all resources except oil. Additional fuel oil for construction could be procured through normal contractual means. These resources would represent a small fraction of those needed to operate the site. Operational impacts would be within availability capacity except for oil and natural gas. Since SRS uses fuel oil as its primary utility fuel, using natural gas in lieu of fuel oil would require additional infrastructure. The final facility design would be converted to a fuel oil basis. With this conversion from natural gas to fuel oil, site infrastructure requirements would be within site capacities, except for oil. Additional oil could be procured through normal contractual means.